Synopsis

on

Consumers' Attitude towards Product Harm Crisis: With Special Reference to FMCG Sector in Agra City

Submitted by:

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Section 1: INTRODUCTION

Product-harm crisis are discrete, well publicized occurrences wherein products are found to be defective or dangerous **(Siomkos and Kurzbard 1994; Siomkos and Malliaris 1992).** Product harm crisis may be caused due to producer‟s negligence, product misuse, sabotage, etc. and may happen to any company anytime. Irrespective of the cause, product harm crisis have the potential to produce deleterious effects on the brand. It can greatly damage the crisis brand's market share and penetration **(Ma et al., 2014).** This is because product harm crisis causes negative publicity which in turn affects consumers' attitude, beliefs and future purchases **(Griffin, Babin and Attaway, 1991)**. However the impact on the brand can be moderated by the way the firm respond to the crisis.

Notable examples of product harm crisis include discovery of cyanide in extra strength Johnson & Johnson Tylenol pain relieving capsules in September 1982, detection of benzene in Perrier in 1990, accidents due to defective Firestone tires in October 2000, discovery of pesticide traces in PepsiCo and Coca-Cola flagship beverages in 2003, product recall of milk powder containing more iodine than Chinese national standards in the market by Nestle in 2005, contamination of Sanlu baby formula in China in 2008, Toyota's worldwide recall of more than seven million cars because of technical problems, etc. These examples clearly suggest that product harm crisis is rampant and many of the crises result in product recalls. Product recall can be defined as calling back from the market, a product which is not in conformity with the standards committed to customers and may pose threat to the lives of the consumers.

Apart from the apparent impact of product harm crisis on the affected brand, a product-harm crisis may also corrode trust of the consumers in the product category and thereby change their attitude towards the category as a whole, as the inadequacy of the production process can be perceived to be an industry wide problem. In a study it was found that that when a product (e.g. say an online bank)

is in crisis, the whole category itself (i.e. banking) is also negatively affected because of associative activations in consumers' memory. The whole category therefore is perceived to be more risky by the consumer **(Dahlen and Lange, 2006).**

Further, spill-over impact of a product harm crisis for the same brand in other product categories may also exists especially in complex brand portfolios with multiple brands and sub-brands **(Lei, Dawar andLemmink, 2006).**This spillover is inevitable because for efficient market segmentation, capturing asmuch of market share as possible and to capitalise on the equity of successful brands, marketers try to create relatedness amongst the product categories/brands in the minds of the consumers through varied means such as using same logo, similar trade dress and design for product categories of the brand. Once these linkages are established in consumers' memory, a brand cannot be isolated from exposure to information about related brands in the same brand portfolio. This phenomenon, termed spillover effect **(Balachanderand Ghose, 2003)** refers to the extent to which information (e.g. a product-harm crisis) about a brandchanges attitudes about other brands that are not directly involved. Thus a drop in performance of one product category due to a product harm crisis is transmitted across other product categories in the brand portfolio. Negative associations can spill-over onto brands that have a high degree of associative overlap with the affected brand.

Numerous researchers have examined the effects of product recalls on brand performance **(Ma et al., 2014),** the stock prices of affected companies **(Knight and Pretty, 1996, Chen, Ganesan and Liu, 2009, Chen and Nguyen, 2013).** However, little is available in literature about theconsumers' attitude towards other product categories of the brand portfolio and on competing brands within the product category. Moreover, most of past research about the direct and spillover impact of product crisis on consumers'attitude was conducted in a laboratory setting and was based on experimental

data. The objective of the study is to gain insights on the impact of product harm crisis on consumers' attitude towards the brand portfolio and competing brands within the category by genuine consumer responses collected through field survey in Agra city. The study focuses on FMCG (Fast Moving Consumer Goods) sector as most of the FMCG companies have multiple brands, sub-brands which inevitably pave way for spillover effects. Additionally the study examines whether there is change in consumers' attitude towards the affected brand across various demographic variables. The study will help the companies in FMCG sector to mitigate the magnitude of spillover effects of product harm crisis by adopting appropriate branding strategies that would safeguard the brands and categories in their portfolio during crisis.

Section 2: REVIEW OF LITERATURE

Review of literature was performed to understand the broad concept of product harm crisis, its impact on consumers' attitude and its implications on performance of the company and brand. A broad classification of the literature was performed by the researcher (Figure 1). A summary of the literature reviewed under the given classification has been exhibited in Table 1 at the end of this section. The classification of literature was done on the basis of:

2.1 Paper Content

2.2 Methodological Approach

2.1 Paper Content

Previous research on product harm crisis can be broadly classified into three streams:

2.1.1 Strategies to Manage Product Harm Crisis

The first stream focuses on descriptive and case based studies advising appropriate managerial strategies to respond to product harm crisis to mitigate undesirable effects of product harm crisis. These studies neither provide clear understanding of the underlying mechanisms through which product crisis harms the company/brand **(Ahluwalia et al., 2000)** nor do they quantify the extent of the damage incurred or avoided.

During a product-harm crisis, consumers often receive negative information about the product and the company. As a result, after a crisis, consumers' attitudes changes negatively (**Siomkos and Kurzbard,1994).** Crisis represent a source of reputational threat so it becomes important to use right kind ofcrisis response strategies to repair the reputation, to reduce negative affect and to prevent negative behavioral intentions. In order for the company to be able to bring the customers back to purchasing its products, certain immediate actions are necessary. Situational Crisis Communication Theory posits that byunderstanding the crisis situation, the crisis manager can

determine which crisis response strategy or strategies will maximize reputational protection (**Coombs, 2007)**.

Four basic responses that companies in crisis tend to undertake are: super effort, voluntary compliance, forced regulatory compliance and denial. Out of the four responses, voluntary compliance is effective under most conditions though different responses have varying effects under different conditions (**Siomkos and Shrivastava, 1989, 1993; Siomkos and Kurzbard, 1994).** In one study it has been found that consumers tend to "forget" about the crisis and its effects after a couple of months, especially in cases when the company is socially responsible, and when the company issues a voluntary recall of its product **(Vassilikopoulou et. al, 2009).** In an experimental study, it was found that confession was the most preferred company response, best at mitigating anger, and increasing sympathy and loyalty of consumers. Denial or excuse, which seek to reduce responsibility judgments, instead increased these judgments and, in doing so, resulted in strong negative stakeholder reactions **(McDonald, Sparksand Glendon 2010).** Consistent with the result, the analysis of many corporate brand crisis experiencesfinds that forthrightness in communications and credible action in the form of behaviour are most likely to restore trust and rescue a brand in crisis **(Greyser, 2009).**

Brand advertising is also effective to counter the negative effects of product harm crisis to regain customer trust especially for strong brands **(Cleeren, Dekimpe and Helsen, 2007).** The effectiveness of advertising to counter the negative effects of the product harm crisis changes according to the extent of negative publicity surrounding the crisis and acknowledgment of blame by the affected company. When the extent of publicity is low and company does not acknowledge the blame, increasing brand advertising by the affected company is effective whereas if the company acknowledges the blame then the affected company should not increase advertising. When the negative publicity is high and the company doesn't acknowledge blame, advertising is

recommended but when the company acknowledges the blame, advertising might be attractive, depending on the net impact of the two opposing forces on advertising effectiveness**(Cleeren, Heerde and Dekimpe, 2013).** Multinational Companies should choose culture specific response strategies in order to protect moral reputational status and to make the market sustainable. For example in a study it was found that an affected company has to launch a super effort response in Sri Lanka whereas the voluntary recall response in China is sufficient in a crisis in rder to maintain moral reputation (**Samaraweera, Li and Qing, 2014).**

2.1.2 Role of Moderators in Consumers' Response to Crisis

In the second stream of research, lab experiments are used to examine the impact of hypothetical crises situations on brand and influence of moderating variables related to company, consumer and external environment on consumers' attitude towards the brand (Figure 2). These researches were based on psychological theories but lacked external validity to a great extent. Furthermore, the studies did not endeavour to examine the financial implication of crisis on the firm.

Previous research on product-harm crisis has identified three major factors which have a significant impact on consumers‟ perceptions and buying behavior: (1) the company's reputation and corporate social responsibility **(Klein and Dawar, 2004)** (2) external effects (**Siomkos and Shrivastava, 1989)** (3) the company's response to the crisis (**Siomkos and Shrivastava, 1989, 1993).**

- **Company's Reputation and Response**

Corporate reputation or corporate associations that have been positively built prior to a crisis could at least mitigate the negative impacts inflicted by a crisis **(Dawar and Pillutla, 2000).** Corporate Ability (CA) associations are related to a company's ability and expertise to produce high-quality products or services, while Corporate Social Responsibility (CSR) associations are related to the status of a company as a good member of society **(Kim, 2011).** In a study it has been found that the advantages of having positive prior CSR associations are biggerthan having positive CA associations in mitigating the negative effects of product harm crisis **(Kim, 2012).**

- **External Effects**

Research attention has also been paid to the impact that regulatory agencies, press and interest groups have on a company's efforts when treating a crisis. The research on external parties indicates that a company may face either negative or positive external effects during a crisis. A study indicates that specific negative effects of a crisis may be mitigated by the press when it reports that the troubled company is acting in a socially responsible way in recalling the harmful product **(Siomkos, 1989).**

Another study reveals that organizational response and time are the most important factors in high- and medium-extent product-harm crises, whereas social responsibility and external effects mostly influence consumer purchase intentions in severe crises (**Lepetsos, Siomkos and Chatzipanagiotou, 2008)**.

- **Consumer Characterstics and Demographic Variables**

Factors like brand loyalty **(Cleeren, Dekimpe and Helsen, 2007; Chaudhuri and Holbrook 2001)** and the perceived locus of the problem has impact on brand evaluations. In a study using a series of Toyota automotive recalls it was acknowledged that the level of consumer involvement might have a central role in determining consumer experiences pre- and post-purchase. Those consumers with high-levels of involvement prior to the announcement of the product harm crisis insulate themselves against negative firm news and experience positive attitude changes towards the product and exhibit higher levels of brand loyalty while those with low-levels of involvement view the firm in a more negative light following the announcements **(Robert D. Evans, Jr., 2015).**

In an experimental study it was found that amongst other demographic variables, age influences consumers' perceptions of susceptibility to threat **(Laufer, Silvera and Meyer, 2005).** Findings indicatethat as compared with younger consumers, older consumers perceive product harm crises as

less threatening, place less blame on the company, and have stronger intentions to purchase **(Silvera, Meyerand Laufer, 2012).** In another study conducted towards the consumers' attitude towardssafety of milkpowder after the melamine scandal in 2008 it was found that gender, educational level and income level also impact the consumers' attitude towards the crisis. Results revealed that compared to male, female consumers who are responsible for the proper diet of family members are usually more concerned about food safety. Those consumers with a higher level of educational attainment and income are more concerned about food safety and are more cautious in post crisis purchase **(Zhou and Wang, 2011).** The current study gives insights into effect of demographic variables on consumers‟ attitude towards product harm crisis.

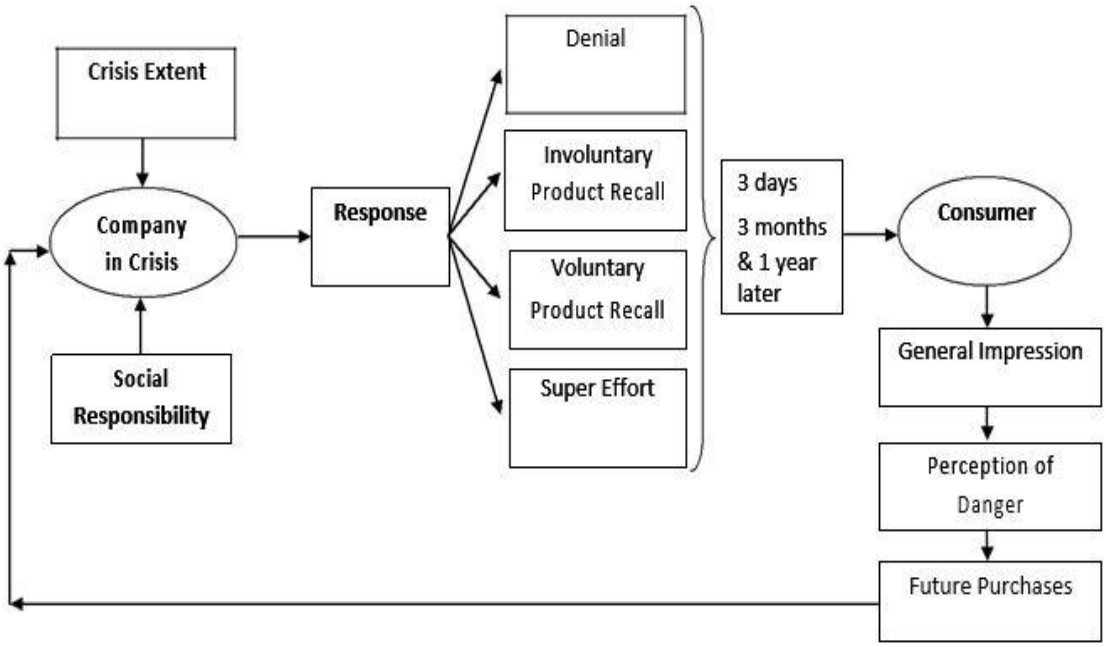


Figure 2: Conceptual Framework of Factors Influencing Consumers' Product Harm Crisis Management (A. Vassilikopoulou et al., 2008)

2.1.3 Performance Implications of Product Harm Crisis

2.1.3.1 Brand Performance

The third research stream focuses on gauging the effects of actual product-harm crises on a variety of performance measures such as sales and market share **(Heerde, Helsen and Dekimpe, 2007)** marketing effectiveness **(Heerde et al., 2007,Cleeren, Heerde and Dekimpe, 2013),** stock market performance **(Davidson III and Worrell, 1992, Chen and Nguyen, 2013, Chu, Lin and Prather, 2005).**

Product-harm crisis hurts the affected brand greatly. It disturbs the balance of market structure which in turn lowers the purchase frequency during the crisis period which might last for some time. Market share and penetration also drops significantly during crisis period. Even though these measures recovered during the post-crisis period, they were still significantly lower than their pre-crisis levels (**Ma, et al.,2010).** In another study it was found that brand equity, in particular of the established brand, is impactednegatively by the product recall incident while the less established brand is not affected in the same way (**Korkofingas and Ang, 2012)**. These results are inconsistent with results of previous studies **(Dawarand Pillutla, 2000**) which suggest that strong brands are likely to be more immune to post recall impactsthan weaker brands. Possibly, strong brands are expected to perform consistently and any product recall situation leads to an erosion of consumer's trust and re-assessment of brand and reliability. This negative impact of product-harm crises on the brand may differ across recall events depending on media coverage of the event, crisis severity and consumers' prior beliefs about product quality. In an analysis using unique dataset containing 35 automobile brands, 193 auto sub-brands, and 359 recalls during 1997-2002, the results revealed that consumers respond more negatively to product recalls with greater media attention, more severe consequences, and higher perceived product quality **(Liu and Shankar, 2014).**

2.1.3.2 Shareholders' Value

Several papers find evidence that shareholders' wealth is affected after a product recall, but the result is mixed. Recall may signal to the public the failure of the company's internal control over product quality **(Brown, 2000).** Therefore, recalls are costly to companies because they often entail costs caused bydamage to brand name and reduced trust in the manufacturer **(Korkofingas and Ang, 2011).** This is consistent with findings of negative impact on stock price and firm's financial value **(Chen, Ganesanand Liu, 2009).** Though the magnitude of the loss of brand equity and reputation due to a recall is difficultto directly estimate, the impact of a recall on shareholders' wealth is more easily quantified **(Zhao et al., 2009).** In a study, by examining the product recall announcements in the automobile industry, it was foundthat abnormal returns and returns are more negative when the products are replaced than when products are checked or repaired **(Davidson III and Worrell, 1992).** In a study examining the product harm crisis of Johnson & Johnson Tylenol, it was found that Tylenol experienced negative stock price reactions for the entire event period and firms competing with Tylenol also experienced negative stock price reactions; however, the effect on them was less than the effect on other pharmaceutical firms not competing with Tylenol. This suggests that firms competing with Tylenol experienced some relative benefits from the anticipated reduced competition (**Dowdell, Govindaraj and Jain, 1992)**

In a study examining the recall announcements of US and Chinese automobile companies it was found that the recall announcements do not significantly affect the shareholders' value of competitor firms **(Barber and Darrough, 1992)** whereas in one of the study examining 29 recalls by Chinese listedcompanies, it was found that all of the affected companies suffered from significant negative financial losses, while their competitors benefitted from the recall **(Zhao et al., 2009)**. Thus in formulating risk management policies, corporate managers should evaluate alternative strategies against the criterion of shareholder value maximization **(Knight and Pretty, 1996).**

2.1.3.3 Spillover Effects

Spillover means that "information influences the beliefs that were not directly addressed in a communication" **(Ahluwalia, Unnava and Burnkant, 2001).** Only a limited number of marketing studies have investigated the impact of product-harm crisis management by focusing on consumer evaluations of products and services. Moreover the impact of spillover effects of such crisis and product recalls on consumers' attitude towards the brand portfolio of the affected brand and competing brands is an overlooked issue **(Gao et al., 2015).**

Spillover Effect on Brands/Product Categories in Brand Portfolio

Product harm crisis is contagious and affects consumers' attitude not only towards the affected product but towards the entire product category **(Dahlen and Langen, 2006).** Such spillover effect is more prominent in companies managing multiple brands and sub-brands where brands are more or less related. The relatedness of the brand depends on the portfolio strategy. The theories of the associative network memory model explain how associations relating to brand knowledge work in the consumers' mind and explain how the associations could be transferred from one brand to another (**Langen, 2012).** Brand association is anything linked in memory to a brand **(Aaker, 1991).** It is evident from past research that risks of adverse events are relatively high but the benefits of parent branding/umbrella branding are still attractive, thus the architecture of a brand portfolio should be designed to take advantage of associative asymmetry and to limit the potential spillover from sub-brands considered at risk by having weaker associations with the parent brand **(Lei, Dawar and Lemmink, 2015).**

Spillover Effect on Competing Brands within the Product Category

In a study it is revealed that spillover does not only occur within a brand portfolio, but also occurs between two portfolios **(Langen, 2012).** During product harm crisis unaffected and competing brands may experience loss in baseline sales, reduced own effectiveness for its marketing instruments, cross sensitivity to rival firms' marketing-mix activities, and decreased cross impact of its marketing-mix instruments on the sales **(Heerde, Helsen and Dekimpe, 2007).**

In a study of most highly publicized lead-related preschool toy recalls it was found that recalls involving toys can have positive or negative spillovers to sales of rivals' toys **(Freedman,Kearney and Lederman, 2010).** It has been found that similar brands are vulnerable to the spillovereffects of the product crisis. On the contrary, dissimilar brands are immune from the crisis influence. This may indicate that the company needs to compare their brands to the competitors, and choose some dissimilar attributes to differentiate themselves from other brands. These special attributes can be used to protect the company from the negative impacts of similar brands **(Ma et al., 2010).** This is consistent with the findings that negative associations can spill-over onto brands with schemas that have a high degree of associative overlap with the salient brand in crisis. Conversely, one would expect positive effects on dissimilar brands. These brands have a low degree of associative overlap with the brand in crisis. Thus, the salient information from the brand in crisis produces a contrast effect on brand evaluations **(Dahlen and Langen, 2006).**

The study contributes to the third research stream (highlighted in Figure 1) by examining the impact of product harm crisis on consumers' attitude towards the affected brand/category, non-affected brands/categories in the brand portfolio and competing brands. The study also aims to assess the change in consumers' attitude towards product harm crisis across various demographic variables thereby contributing to research stream two.

2.2 Methodological Approach

The second level categorisation of the literature review was done on the basis of the research approach used by the literature authors. This will provide us some insight on the nature of work done in this filed.

2.2.1 Descriptive Research

Descriptive research attempts to describe something like characteristics or functions of relevant groups, such as consumers, organizations and markets. It is also used to determine the degree to which marketing variables are closely associated or to estimate the percentage of population exhibiting certain characterstics **(Malhotra 2011).** Based on the methodology adopted, descriptive research can be classified as below:

- **Survey based**: In survey based research subjects complete questionnaire or interview in naturalsetting.

  (Evans and Sanchez, 2015), (Sago and Hinnenkamp, 2014), (Ma et al., 2014), (Balakrishnan et al., 2012), (Souiden and Pons, 2009), (Chaudhuri and Holbrook, 2001), (Dawar and Pillutla 2000), (Vassilikopoulou and Stavroulaki , 1991), etc. fall under this category.

- **Case Study based**

  The case study method is a technique by which individual factor whether an institution or just an episode in the life of an individual or a group is analysed in its relationship to any other in the group. Thus, a fairly exhaustive study of a person (as to what he does and has done, what he thinks he does and had done and what he expects to do and says he ought to do) or group is called a life or case history. In brief, we can say that case study method is a form of qualitative analysis where in careful and complete observation of an individual or a

situation or an institution is done; efforts are made to study each and every aspect of the concerning unit in minute details and then from case data generalisations and inferences are drawn.

(Xiaohong, 2015) and **(Knight and Pretty, 1996**) have used case study method for research.

2.2.2 Conceptual Research

Conceptual research can be defined as research that is related to some abstract idea(s) or theory. It is generally used by philosophers and thinkers to develop new concepts or to reinterpret existing ones **(Kothari, 2004).**

(He and Ran, 2015) and **(Balasubramaniam, 2013)** have used conceptual research type.

2.2.3 Empirical Research

The word empirical means information gained by experience, observation, or experiment. The central theme in scientific method is that all evidence must be empirical which means it is based on evidence. Based on method of research, empirical research can be classified into various types. But in the literature review of the current study most of the empirical researches are event based studies.

- **Event Study based**

Event study is a viable tool to quantitatively assess the intensity of unusual returns during the occurrence of an announced event. The announced event is an unanticipated event, which may have political, economic, legal, or historical implications for select firms. An event study methodology, "determines whether there is an abnormal stock price effect" associated with an unanticipated event

(Williams and Siegel, 1997). From this analysis the researcher can infer the significance of the event.

(**Sanchez, 2015), (Cleeren et al., 2013) (Wu and Dai, 2012), (Chen et al., 2010), (Freedman etal., 2010), (Chu et al., 2005),** etc. are based on event study method.

2.2.4 Experimental

In an experimental research participants are randomly assigned to an experimental or treatment group and a control or comparison group (e.g., one receives the intervention and one does not). At least one variable is manipulated and its effects are measured.

(Lie and Lemmink, 2015), (Kim, 2014), (Langen, 2012), (Siomkos and Malliaris, 2011) (Siomkos and Ozen, 2011), (Vassilikopoulou et al., 2009), (Korkofingas and Ang, 2008), (Dahlen and Lange, 2006) (Shrivastava and Siomkos, 1989), etc. have used experimental based studies.

2.2.5 Analytical Research

In analytical research, the researcher uses facts or information available, and analyzes these to make a critical evaluation of the material. Most of the papers reviewed have used models.

- **Modeling based**

  Models are used to describe the overall framework of what reality is like and conditions under which it can be studied. Models are applied to understand particular problem area by means of deploying methods that have theories behind it **(Clark, 2005).**

  (Chaudhuri and Holbrook 2001), (Wang and Li, 2014), (Cleeren, Dekimpe and Helsen, 2007), (Marsh, Schroeder and Mintert, 2004), (Vassilikopoulou et al., 2004), (Greyser, 2009), etc. used model based approach for analysis.

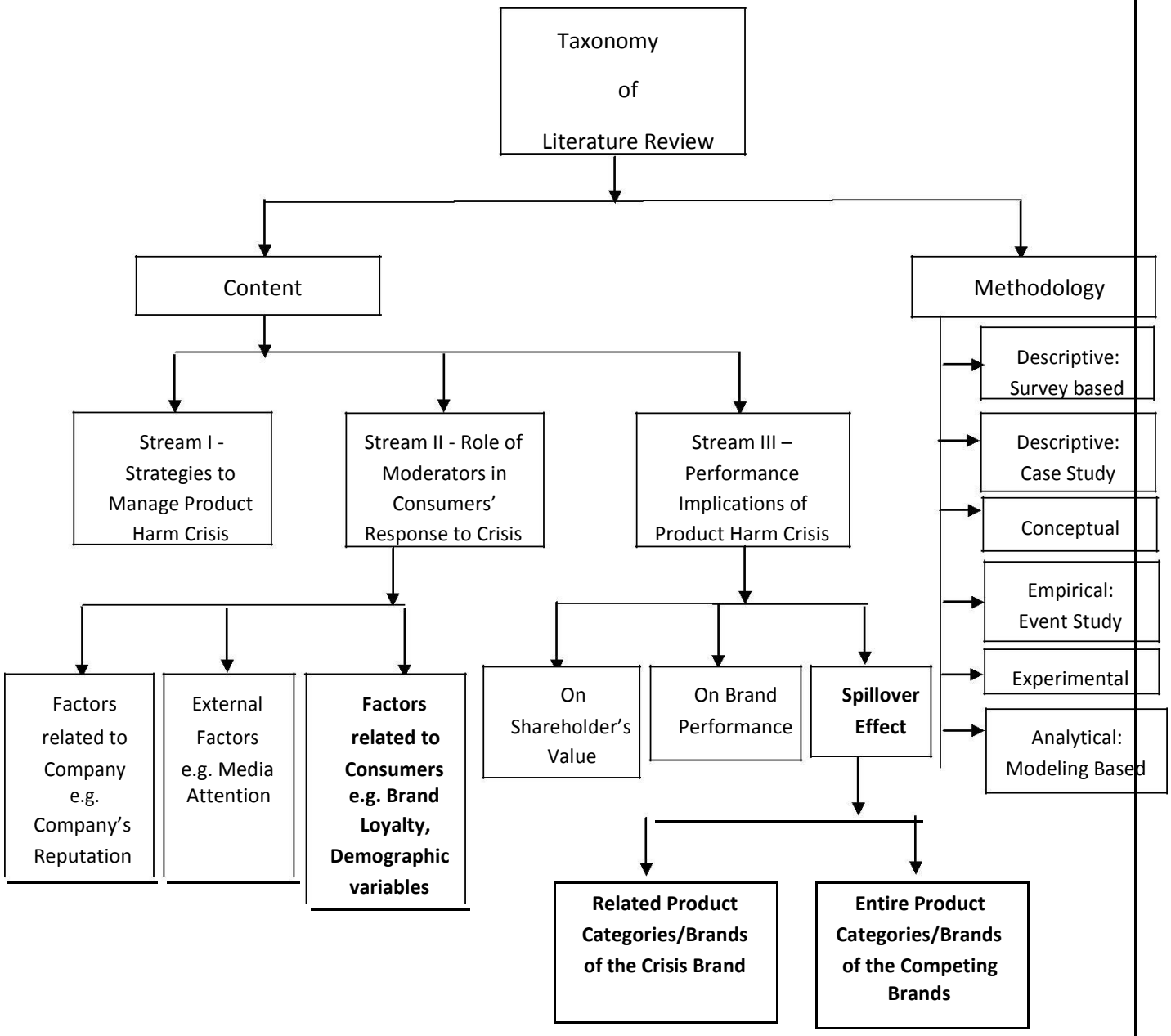

Taxonomy of Literature Review
Content
Methodology
Stream I - Strategies to Manage Product Harm Crisis
Stream II - Role of Moderators in Consumers' Response to Crisis
Stream III – Performance Implications of Product Harm Crisis
Descriptive: Survey based
Descriptive: Case Study
Conceptual
Empirical: Event Study
Experimental
Analytical: Modeling Based
Factors related to Company e.g. Company's Reputation
External Factors e.g. Media Attention
Factors related to Consumers e.g. Brand Loyalty, Demographic variables
On Shareholder's Value
On Brand Performance
Spillover Effect
Related Product Categories/Brands of the Crisis Brand
Entire Product Categories/Brands of the Competing Brands

Figure 1: Taxonomy of Review of Literature

Table 1 Summary of Literature Review

SNo.	Paper Author	Content											Methodology					
		Impact of Moderators on Consumers' Attitude towards Affected Brand		Effect of Product Harm Crisis on Brand Performance of		Effect of Product Harm Crisis on Shareholder's value of		Spillover Effect of Product Harm Crisis on		Impact of Product Harm Crisis on Consumer's Attitude			Descriptive		Conc-eptual	Empi-rical	Experi-mental	Analy-tical
		Demo-graphic Variable	Co.'s Response to Crisis	Affected Brand	Compe-ting Brands	Affected Firm	Compe-ting Firms	Related brands/ product catego-ries	Entire product category (Competing brands)	Towards Affected Brand	Related brands/ product catego-ries	Entire product category (Comp-eting brands)	Survey based	Case Based	Concep-tual	Event Study	Experi-mental	Model based
1	He and Ran (2015)			✓		✓				✓					✓			
2	Lie, Dawar and Lemmink (2015)							✓		✓	✓						✓	
3	Evans and Sanchez (2015)												✓			✓		
4	Xiaohong (2015)		✓											✓				
5	Liu and Shankar (2014)			✓				✓		✓								✓
6	Bakhtavoryan, Capps and Salin (2014)			✓	✓			✓	✓									✓
7	Gao et al. (2014)								✓								✓	
8	Sago and Hinnenkamp (2014)	✓								✓	✓		✓					
9	Ma et al.(2014)			✓	✓					✓	✓	✓	✓			✓		
10	Wang and Li (2014)			✓	✓			✓	✓	✓	✓	✓						✓
11	Kim (2013)		✓														✓	
12	Balasubraman-iam (2013)	✓													✓			
13	Cleeren, Heerde and Dekimpe (2013)			✓												✓		✓
14	Vassilikopoulou and Stavroulaki (2013)			✓					✓	✓			✓				✓	
15	Balakrishnan et al. (2012)									✓			✓					

SNo.	Paper Author	Content											Methodology					
		Impact of Moderators on Consumers' Attitude towards Affected Brand		Effect of Product Harm Crisis on Brand Performance of		Effect of Product Harm Crisis on Shareholder's value of		Spillover Effect of Product Harm Crisis on		Impact of Product Harm Crisis on Consumer's Attitude			Descriptive		Conc-eptual	Empi-rical	Experi-mental	Analy-tical
		Demo-graphic Variable	Co.'s Response to Crisis	Affected Brand	Compe-ting Brands	Affected Firm	Compe-ting Firms	Related brands/ product catego-ries	Entire product category (Compet-ing brands)	Towards Affected Brand	Related brands/ product catego-ries	Entire product category (Comp-eting brands)	Survey based	Case Based	Conc-eptual	Event Study	Experi-mental	Model based
16	Wu and Dai (2012)			✓						✓			✓			✓		
17	Silvera, Meyer and Laufer (2012)	✓															✓	
18	Langen (2012)			✓	✓			✓	✓								✓	
19	Puri and Clark (2012)	✓		✓														
20	Zhou and Wang (2011)	✓	✓							✓		✓						✓
21	Siomkos and Malliaris (2011)			✓						✓							✓	
22	Siomkos and Ozen (2011)		✓							✓							✓	✓
23	Kim (2011)		✓							✓								✓
24	Korkofingas and Ang (2010)							✓	✓	✓								
25	Ma et al. (2010)			✓	✓											✓		✓
26	Shang (2010)									✓		✓				✓	✓	
27	Freedman, Kearney and Lederman (2010)			✓	✓			✓	✓							✓		
28	Chen, Ganesan and Liu (2009)						✓									✓		
29	McDonald, Sparks and Glendon (2010)		✓	✓	✓		✓	✓	✓	✓		✓				✓		

SNo.	Paper Author	Content											Methodology					
		Impact of Moderators on Consumers' Attitude towards Affected Brand		Effect of Product Harm Crisis on Brand Performance of		Effect of Product Harm Crisis on Shareholder's value of		Spillover Effect of Product Harm Crisis on		Impact of Product Harm Crisis on Consumer's Attitude			Descriptive		Conc-eptual	Empi-rical	Experi-mental	Analy-tical
		Demo-graphic Variable	Co.'s Response to Crisis	Affected Brand	Compe-ting Brands	Affected Firm	Compe-ting Firms	Related brands/ product catego-ries	Entire product category (Compe-ting brands)	Towards Affected Brand	Related brands/ product catego-ries	Entire product category (Comp-eting brands)	Survey based	Case Based	Concep-tual	Event Study	Experi-mental	Model based
30	Magno, Cassia and Marino (2010)									✓							✓	
31	Zhao et al. (2009)					✓										✓		
32	Souiden & Pons (2009)		✓	✓						✓								✓
33	Chen and Nguyen (2013)						✓									✓		
34	Greyser (2009)		✓	✓						✓								✓
35	Korkofingas & Ang (2008)	✓		✓	✓				✓	✓			✓				✓	✓
36	Vassilikop-oulou et al. (2009)			✓						✓							✓	✓
37	Heerde, Helsen and Dekimpe (2007)		✓			✓	✓			✓						✓	✓	✓
38	Cleeren, Dekimpe and Helsen (2007)			✓						✓								✓
39	Lei, Dawar & Lemmink (2006)		✓					✓	✓	✓	✓	✓					✓	
40	Dahlen and Lange (2006)							✓	✓								✓	
41	Standop (2006)																	

SNo.	Paper Author	Content											Methodology					
		Impact of Moderators on Consumers' Attitude towards Affected Brand		Effect of Product Harm Crisis on Brand Performance of		Effect of Product Harm Crisis on Shareholder's value of		Spillover Effect of Product Harm Crisis on		Impact of Product Harm Crisis on Consumer's Attitude			Descriptive		Conc-eptual	Empi-rical	Experi-mental	Analy-tical
		Demo-graphic Variable	Co.'s Response to Crisis	Affected Brand	Compe-ting Brands	Affected Firm	Compe-ting Firms	Related brands/ product catego-ries	Entire product category (Compet-ing brands)	Towards Affected Brand	Related brands/ product catego-ries	Entire product category (Comp-eting brands)	Survey based	Case Based	Concep-tual	Event Study	Experi-mental	Model based
42	Laufer, Silvera and Meyer (2005)	✓															✓	
43	Chu, Lin and Prather (2005)					✓										✓		✓
44	Heerde et al. (2005)	✓		✓		✓		✓		✓	✓					✓	✓	✓
45	Klein and Dawar (2004)		✓							✓							✓	
46	Marsh, Schroeder & Mintert (2004)																	✓
47	Vassilikop-oulou et al. (2004)			✓						✓						✓		✓
48	Balachander & Ghose (2003)							✓		✓	✓						✓	✓
49	Mortanges and Riel (2003)			✓							✓						✓	
50	Chaudhuri and Holbrook (2001)			✓									✓					✓
51	Dawar and Pillutla (2000)			✓				✓	✓	✓			✓				✓	
52	Barber and Darrough (1996)					✓	✓									✓		
53	Siomkos and Kurzbard (1992)		✓							✓							✓	
54	Knight & Pretty (1996)					✓								✓				
55	Siomkos and Shrivastava (1993)			✓						✓								✓
56	Dowdell, Govindaraj and Jain (1992)					✓	✓									✓		✓

2.3 Case Studies

The proposed study aims to examine the effects of product harm crisis on consumers' attitude by focusing on three cases of product harm crisis in India. The selection of case studies is based on four criteria:

1) Well known brand in FMCG Sector
2) Public Listed Company
3) Product harm crisis situation has received immense media and consumer attention
4) Major steps were taken by the affected company to mitigate the effects of product harm crisis

2.3.1 Case 1: Discovery of pesticide traces in PepsiCo and Coca-Cola beverages

Interbrand's Global Brand Scorecard for 2003 ranked Coca-Cola the "#1 Brand in the World". From 1993 to 2003, Coca-Cola invested more than US$1 billion in India, making it one of the country's top international investors. 22 By 2003, Coca-Cola India had won the prestigious Woodruff Cup from among 22 divisions of the Company based on three broad parameters of volume, profitability, and quality. Coke and Pepsi dominated the market and together had a consolidated market share above 95% by 2003. In August 2003, the Center for Science and Environment (CSE), an activist group of engineers, scientists, and environmentalists in India, for unsafe products, issued that three samples of 12 PepsiCo and Coca-Cola brands from across the city were found to contain pesticide residues surpassing global standards by 30-36 times including lindane, DDT, malathion and chlorpyrifossaid. Just within a few days after the initial reports came out, Coca-Cola stock dipped by $5 on the New York Stock Exchange. Additionally, their sales dropped 30-40% in India just within two weeks. The study examines theimpact of product harm crisis on consumers' attitude towards Pepsi Co and Coca Cola brands and other carbonated drinks of competing brands.

2.3.2 Case 2: Discovery of worms in Cadbury chocolate bars

Cadbury India ("Cadbury") commands a 70% share in the Indian chocolate market, and is a significant player in the chocolate category. In June of 2003, Cadbury was the only multinational to be identified as one of India's Best Managed Companies by Business Today 1. In 2003, Cadbury India faced a media onslaught and plummeting sales brought on by reports of worms in some of its chocolate bars. Even though the problem was isolated to storage at the retail level, the company needed to respond to the crisis fast. The FDA authorities visited Cadbury's factory in Thane, one storage depot and a few distributors, and froze stocks at the factory and depot. The study examines the impact of crisis on consumers' attitude towards Cadbury and the chocolate category.

2.3.3 Case 3: Discovery of lead and monosodium glutamate (MSG) in Maggi Noodles

Maggi, a brand of Nestle India has built a unique bond with consumers and continued to be the no.1 'Most Trusted Food Brand in India' (Annual Report of Nestle 2014). In June 2015, Maggi noodles samples in Lucknow were reported to have tested positive for lead and monosodium glutamate (MSG). As the reports in the media were out, 2,00,000 packets of Maggi noodles were recalled. Maggi, launched in 1984 in India is one of the top products of Nestle India and contributes approximately 29% to the overall revenue of Nestle India. The study also evaluates the impact on brand in crisis on the other products of Nestle and on the other competing brands

SECTION 3

3.1 Need of the Study

FMCG sector in India has witnessed various cases of product harm crisis: in 1990, the soft drinks brand Rasna was found to contain Brominated Vegetable Oil (BVO) that binds citrus flavors to the water which is known to induce memory loss; PepsiCo and Coca-Cola flagship beverages were found to contain pesticide traces in 2003, a few Cadbury Dairy Milk chocolate bars were reported to contain some worms in Mumbai in September 2008. Inspite of increased frequency of product harm crisis cases in India very few researches in context of product harm crisis in FMCG sector have been conducted. This gives us a reason to conduct a study in this area in Indian context.

Today single brand and stand alone companies are increasingly rare. Firstly, manufacturers and retailers manage hundreds and even thousands of brands and every time when one brand is affected there is a potential danger on the other brands (even those from closely related category) in the portfolio. So understanding and managing spillover effects are very important for retailers and manufacturers managing multiple brands. This effect is further attenuated when marketers try to create relatedness amongst the brands in the brand portfolio in order to fulfill their market segmentation and branding strategy. This increased brand relatedness may also expose brands to unintended risk from related brands in a portfolio when negative incidents (e.g., product harm crises) occur. Moreover, the manufacturers and retailers that adopts ‘branded house’ strategy are more vulnerable to spillover effects than those that use ‘House of Brand’ strategies.

(Ma et al., 2010) verifies that a crisis may disturb the stable marketing structure and drive somecustomers from crisis brand to non-crisis brands. This indicates that some non-crisis brands can benefit from a crisis. Consistent with this, in a study of product recall by a major national brand the Peanut Corporation of America in 2009, it was found that the recall was associated with negative impacts for the implicated brand and positive effects on the leading competitor brand.

Whether a brand scandal spills over and influences beliefs about a product category depends on whether the brand is typical of the category **(Roehm and Tybout, 2006).** When a brand receives negative publicity, it becomes more salient in consumers' minds and may have a greater effect on their attitude about the product category than previously. This brand may work as a benchmark on consumers' evaluations of other brands in the same product category, so that consumers evaluate similar brands more negatively and dissimilar brands more positively. By testing these assumptions, the study extends the literature on negative publicity effects on the affected brand to effects on category competition. Previous studies have not systematically investigated consumers' attitude towards the market's competitive structure during product harm crisis.

Consumers' attitudes are the most important indicator for measuring the spillover effect on the brands in the portfolio and competing brands**.** However, whether or how the crisis impacts the perceptions of consumers about the competing brands and the entire product category has not been systematically studied. Moreover, most of the past researches about the impact of product crisis on crisis brand's customer evaluation were conducted in laboratory settings and were based on experimental data. It will be of great interest to investigate this impact using field survey. This study will contribute to this research stream by investigating the effects of product-harm crisis on affected and non-affected brands on consumers' attitude and the competitive structure of entire product category. The researcher draws implications for a theoretical understanding of spillover effects in marketing as well as for the management of brand portfolios.

3.2 Research Questions

Based on the research gaps identified, the researcher proposed the following questions for the research:

- To what extent does product harm crisis destroys the trust and confidence of consumers in the affected brand?
- Does product harm crisis affects consumers' purchase intention and attitude towards the

affected brand for long term?

- Does product harm crisis affects consumers' attitude towards related product categories/brands and competing brands to the same extent as it affects consumers' attitude towards the affected brand?
- Can the consumers' attitude towards the affected brand be changed by the way the marketers respond to product harm crisis?
- Does consumers' attitude towards the product harm crisis differ across demographic variables?

3.3 Research Objectives

The proposed study has the following major objectives:

- To study the extension of conceptual framework of product harm crisis and its effects on brand portfolio and competing brands
- To examine the effect of product harm crisis on consumers' attitude towards the affected brand
- To examine the effect of product harm crisis on consumers' attitude towards related product categories/sub-brands of the affected brand
- To examine the effect product harm crisis has on consumers' attitude towards the affected product category for the competing brands

3.4 Conceptual Framework and Hypothesis Development

In this section a conceptual framework is proposed (Figure 3) depicting the impact of product harm crisis on the crisis brand and its spillover effects on the product categories of the crisis brand as well ascompeting brands. The study intends to explore and examine the impact of product harm crisis in detail.

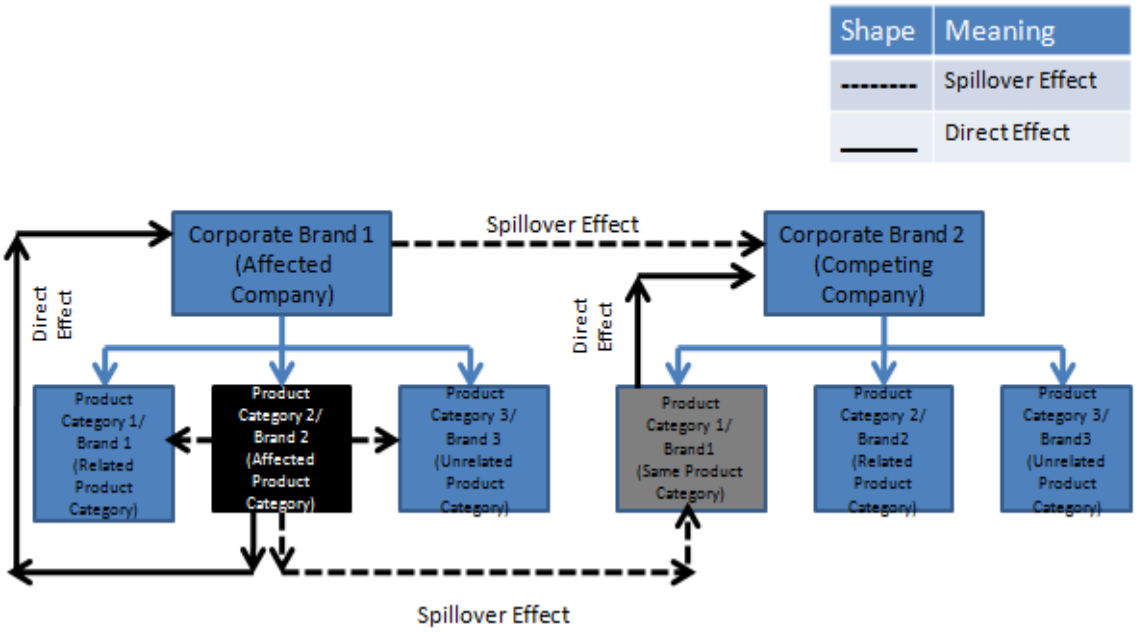

Shape
Meaning
Spillover Effect
Direct Effect
Corporate Brand 1 (Affected Company)
Spillover Effect
Corporate Brand 2 (Competing Company)
Direct Effect
Direct Effect
Product Category 1/ Brand 1 (Related Product Category)
Product Category 2/ Brand 2 (Affected Product Category)
Product Category 3/ Brand 3 (Unrelated Product Category)
Product Category 1/ Brand1 (Same Product Category)
Product Category 2/ Brand2 (Related Product Category)
Product Category 3/ Brand3 (Unrelated Product Category)
Spillover Effect

Figure 3: Framework showing Impact of Product Harm Crisis on the Brand Portfolio & Product Categories of the Competing Brands

In Figure 3 block A represents corporate brand 1 which is facing product harm crisis and block B represent corporate brand 2 which is a competitor of corporate brand 1. Each of the two corporate brands has 3 product categories/brands (C,D E, F ,G and H). Product category represented by block D is the affected/crisis product category of corporate brand 1, product category represented by

block C is the category closely related to the affected product category and product category represented by block E is not related to the affected product category. Similarly product category of corporate brand 2 representedby block F is the category similar to the affected product category of corporate brand 1 and the category closely related to the affected product category and unrelated to product category are represented by block G and block H respectively.

When product category (D) of corporate brand 1 faces product harm crisis then it produces direct adverse effects (represented by black lines) on the reputation, brand performance and shareholders' value of its company/corporate brand 1. Further, it also produces spillover effect (represented by dotted black lines) on other product categories (C and E) of the brand portfolio. Since corporate brand 1 suffers from reputational and performance loss it indirectly affects (represented by dotted black lines) its competitor corporate brand B. The affected product category (D) of corporate brand 1 also indirectly affects similar product category (F) and related product category (G) of its competitor corporate brand 2. The study aims to find out the impact of direct and indirect effect of product harm crisis on consumers‟ attitude towards the affected product category/brand, related product categories of the brand portfolio and competing brands within the product category.

3.1.1 Consumers' Attitude towards the Affected Brand

During a product-harm crisis, extensive media coverage with negative information overwhelms customers and impacts customers' perception about the brand **(Cleeren, Dekimpe and Helsen, 2008;Dawar and Pillutla, 2000; Siomkos and Kurzbard, 1994)**, and customer value of the crisis brand is eventually affected **(Dahlen and Lange, 2006).** Product recalls result in erosion of brand reputation, impair consumers' quality perceptions as consumers' quality perception goes hand in hand with product's success and failure. This results in negative impact on the post crisis consumer purchase decision and brand performance. Consumers who have prior experience with the brand,

product, or service can experience swift and large shifts in their opinions and feelings towards the firm **(Dawar and Pillutla, 2000).** These opinions and feelings are most often out of the control of management and are prone to the influence of extraneous information such as news stories, consumer reports and word-of-mouth influence. Product-harm crisis can greatly damage the crisis brand's market share and penetration **(Ma et al., 2010)**. Although it is difficult to directly quantify the magnitude of loss to brand reputation, consumers attitude is an important barometer to understand the loss of trust in brand, damage to brand reputation and thereby loss of brand performance including market share, market penetration, market growth, etc.

- **Ho1: There is no significant effect of a product harm crisis on consumers' attitude towards the affected brand.**
- **Ha1: There is a significant effect of a product harm crisis on consumers' attitude towards the affected brand.**

3.1.2 Impact of Spillover Effect on Consumers' Attitude towards Product Categories/Brands of the Brand Portfolio

Today marketers manage a portfolio of brands with multiple brands and sub-brands. These brands share the same corporate logo, similar trade design, etc., due to which consumers establish associations and linkages amongst the brands in the portfolio. Once these associations are stored in their memory, one brand information cannot be separated from other brands or product categories. This phenomenon, termed spillover effect **(Balachander and Ghose, 2003),** refers to the extent to which external information (e.g., a product-harm crisis) about a brand changes attitudes about other brands that are not directly involved. For instance, if Kellogg Cornflakes suffer severe quality problems, consumers might change their attitudes not just about Cornflakes, but also about SpecialK and other Kellogg brands. Consistent with this, in a study it was found that there are spill-over effects for the affected brand in other product categories (**Korkofingas and Ang, 2010)**. In the previous example about negative information about Cornflakes, the spillover effect on SpecialK might overwhelm the effect of an

advertisement on SpecialK in altering consumers' attitude towards SpecialK. Consumers' response strategies and marketinginitiatives post crisis also contribute in changing consumers' attitude towards the brand. Based on the study **(Dahlen and Lange, 2006),** it can be hypothesized that any drop in brand performance due to a product recall crisis is transmitted across product categories.

- **Ho2: There is no significant effect of a product harm crisis on consumers' attitude towards related product categories/ brands in the brand portfolio.**
- **Ha2: There is a significant effect of a product harm crisis on consumers' attitude towards related product categories/ brands in the brand portfolio.**

3.1.3 Impact of Spillover Effect on Consumers' Attitude towards Competing Brands within the Product Category

In a study it was found that that when a product (e.g., say online bank A) is in crisis, the whole category itself (i.e., banking) is also perceived negatively by the consumers because of associative activations in consumers' memory. The whole category now is perceived to be more risky and less positive. This in turn has a negative spillover effect on similar brands (e.g., say online bank B) because of assimilation. However, a dissimilar product (e.g., traditional bank C) is now perceived more positively because of contrast effects **(Dahlen and Lange, 2006).** Consistent with these findings, it was found that erosion of trust in crisis brands would be accompanied by erosion of trust in non crisis brands in a focal category (**HongzhiGao et. al, 2014)**. Surprisingly in an experimental study it was found that there is no spillover effect to the other brands within the product category **(Korkofingas and Ang, 2010).** This could be possible because consumers keep updating category information based on new-product introductions, advertisements, etc. which may present an opportunity for brands to reposition themselves.

-

Though the results are mixed yet based on various studies **(Dahlen and Lange 2006, HongzhiGao et. al,2014)** it can be hypothesized:

- **Ho3: There is no significant effect of a product harm crisis on consumers' attitude towards the competing brands within the product category.**
- **Ha3: There is a significant effect of a product harm crisis on consumers' attitude towards the competing brands within the product category.**

3.1.4 Impact of Demographic Characteristics on Consumers' Attitude towards the Affected Brand

In a study post the scandal of melamine-tainted Sanlu milk powder in September 2008 it has been found that consumer demographic variables such as consumers' gender, age, level of education, , etc. influence the consumers' attitude towards food safety **(Zhou and Wang, 2011).** In a study it was found that older participants placed significantly less blame on the products manufactured by the company facing product harm crisis and had stronger intentions to purchase than younger participants **(Silvera, Meyer and Laufer, 2012).** Likewise it was found that the consumers who are more educatedare relatively more concerned about product safety and more sensitive to the external factors like news related to product harm crisis and company's response to crisis than less educated consumers. Given the increased diversity in demographic variables in a developing country like India it becomes very important for the managers to study the impact of product harm crisis on consumers‟ attitude across age, gender, level of education and family income to devise appropriate response strategy targeting different segments of consumers. Unfortunately, little research has focused on the broader issue therefore the present research examines this issue and hypothesizes:

- **Ho4: There is no significant difference in consumers' attitude towards the brand during product harm crisis across age, gender, level of education and family income.**
- **Ha4: There is a significant difference in consumers' attitude towards the brand during product harm crisis across age, gender, level of education and family income.**

Section 4: METHODOLOGY OF PROPOSED RESEARCH

4.1 Scope of Study

Area of survey: Agra city

Population: Total population of Agra City i.e**. 2024195**

Target Population: Population of Agra under the age group below 60 years i.e. 1867725

Category	Age Group	UP Urban Population	Percentage (%) of Total Population	UP Urban Target Population	Percentage (%) of Target Population	*Agra Urban Population (in Proportion to UP's Urban Population)	Agra Urban Population (in proportion to Target Population)
	All ages	**44495063**	**100**	**41051995**	**100**	**2024195**	**1867725**
Children & Adolescents	19 & below	18876943	42.42	18876943	45.98	**858866**	45.98
Young Adults	20 to 34	11452987	25.74	11452987	27.9	**521028**	27.9
Mature Adults	35 to 59	10722065	24.1	10722065	26.12	**487831**	26.12
Old	60 & above	2993436	6.72	NA	NA	136026	NA
Mixed Age Group	Age not stated	449632	1.01	NA	NA	20444	NA

Target Pop.

Table 2: Population and Target Population of UP Urban and Agra Urban as per Census 2011

** Age wise population of Agra is calculated in ratio of age wise population of U.P. as per Census 2011*

4.2 Sampling Plan

4.2.1 Sample Size Calculation

- **For consumers:** Taking statistical approach to calculate sample size (n) of the infinite population, the various quantitative measures to be considered are as follows:

  a) Degree of variability of population characteristics or standard deviation (σ)

  b) Level of confidence desired or Z value

c) Degree of precision desired in estimating population characteristics (D)

$$\mathbf{n = \sigma^2 Z^2/D^2}$$

σ = Approximate value of standard deviation of the sample is taken as 1.

Z = Standard normal variation or Z value is taken as 1.96 for 95% confidence level desired (adequate for most marketing researches).

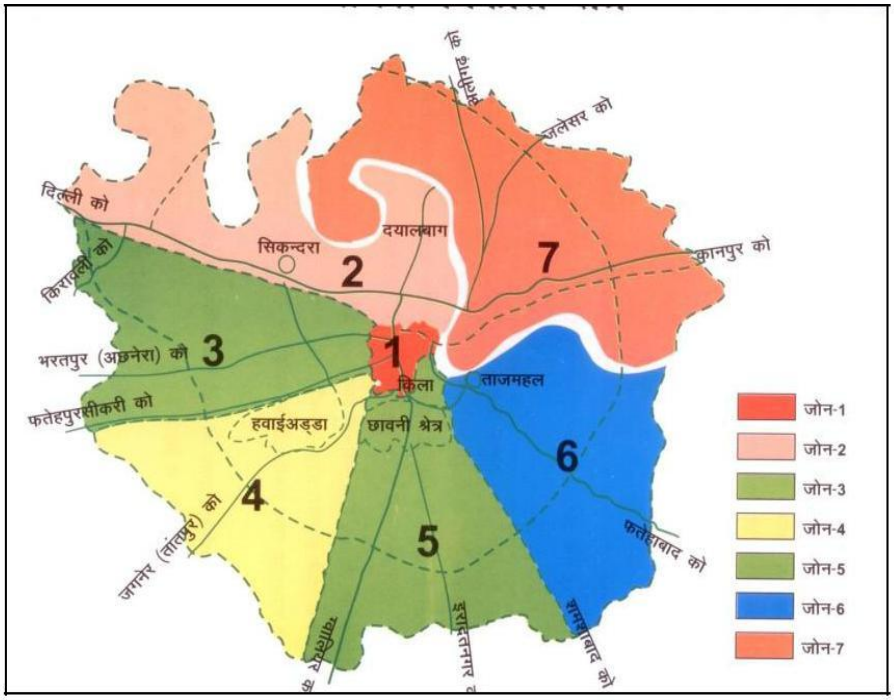
D is taken as .895 (less than .1) to ensure high degree of precision.

$$\mathbf{n=1^2\ (1.96)^2\ /\ (.895)^2 = 479.5 \approx 480}$$

- **For marketers/managers/retailers:** Structured personal interview of 30 managers would be conducted
- **For small children**: Open-ended discussion with 30 children would be conducted

4.2.2 Sampling Frame

Sampling frame for the proposed research consists of all the 7 zones of Agra City as represented in Map 1 below. The map is obtained from Agra Development Authority (ADA). These zones are further divided into colonies and colonies are divided into households. Snapshot of the list of approved colonies in each zone is inserted in Appendix 1.



Map 1: Planning Zones 2013 of Agra City by Agra Development Authority

4.2.3 Sampling Technique

Techniques that will be used for sampling shall be Multi-stage Sampling and Systematic Random Sampling (SRS). The procedure of implementation of sampling technique is elucidated in the form of flow chart (Figure 4) below: Since zones 1,4, 6 and 7 are composed of lesser number of colonies as compared to other zones therefore these zones are combined to form 1 zone in order to make this zone comparable in size to other 3 zones. 4 colonies from each zone and 30 households from each colony will be selected through Systematic Random Sampling. 1 individual from every household would be sampled so total 480 individuals would be surveyed from Agra city. The individuals would be sampled in proportion to age groups and gender as mentioned in Table 2 and Table 3 as per Agra city Census 2011.

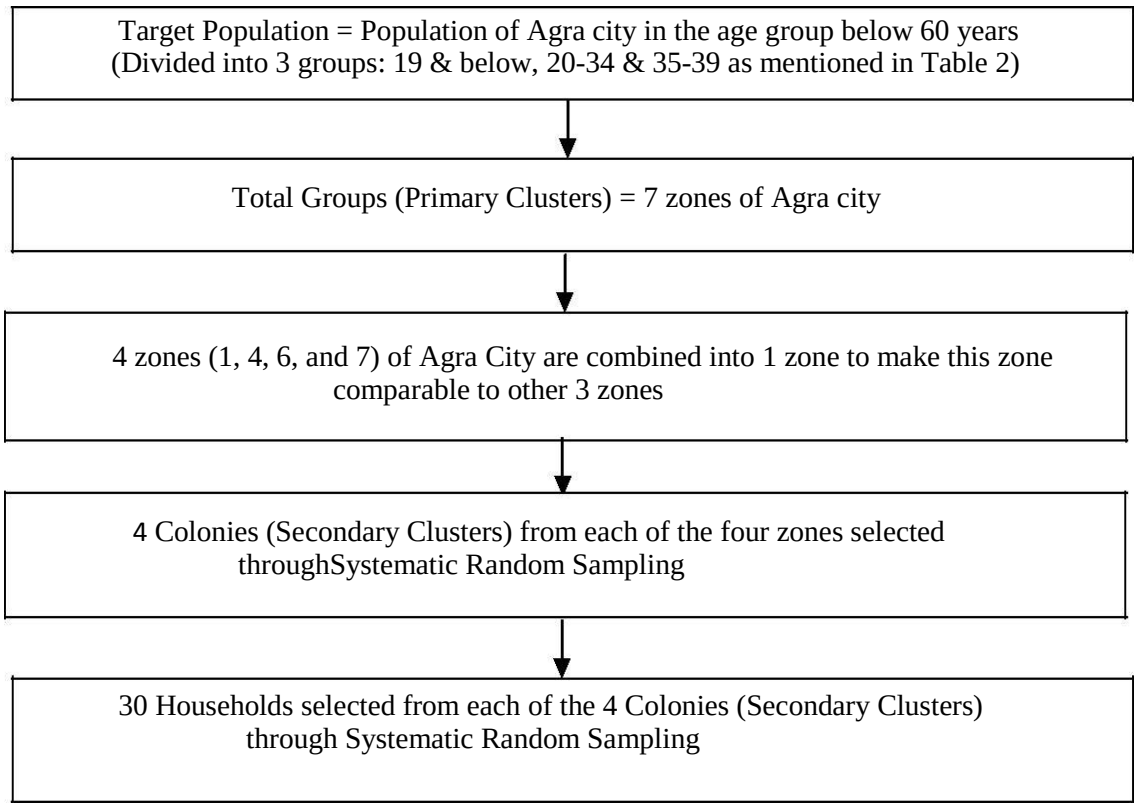

Target Population = Population of Agra city in the age group below 60 years
(Divided into 3 groups: 19 & below, 20-34 & 35-39 as mentioned in Table 2)
Total Groups (Primary Clusters) = 7 zones of Agra city
4 zones (1, 4, 6, and 7) of Agra City are combined into 1 zone to make this zone comparable to other 3 zones
4 Colonies (Secondary Clusters) from each of the four zones selected throughSystematic Random Sampling
30 Households selected from each of the 4 Colonies (Secondary Clusters) through Systematic Random Sampling

Figure 4: Flowchart depicting implementation of Sampling Technique

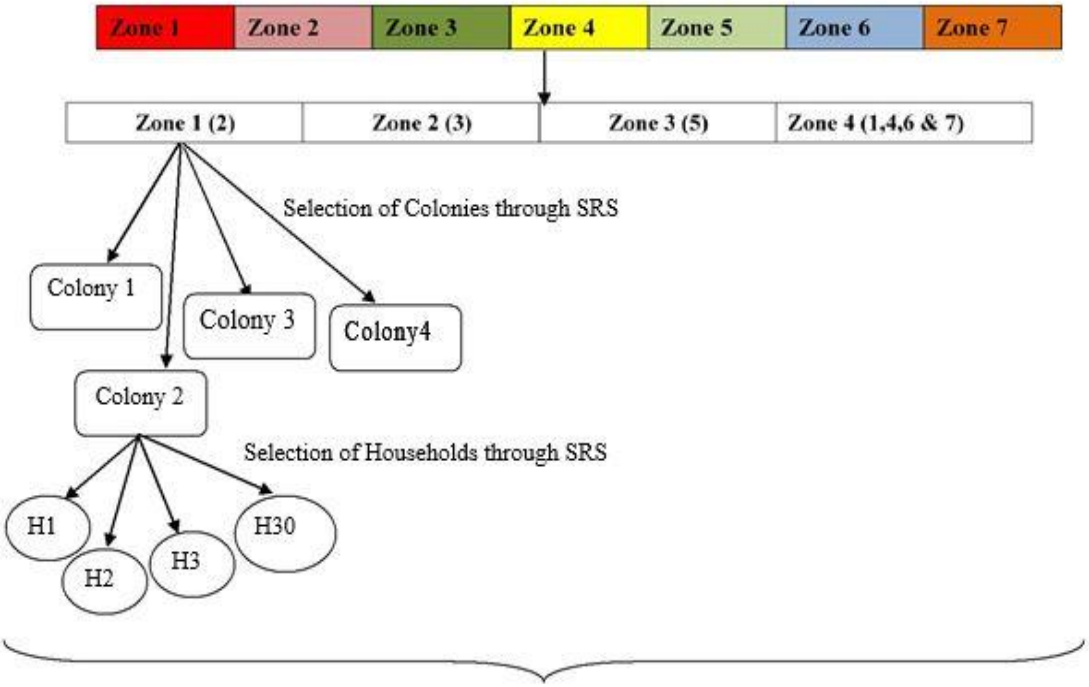


Table 3: Total Sample: Age and Gender wise (Calculation as per Census 2011)

Age Category	Percentage of Target Population	Total Sample	Male (53.34 %)	Female (46.66%)
Children & Adolescents (Below 19 yrs)	45.98	221	118	103
Young Adults (20 - 34 yrs)	27.9	134	71	63
Mature Adults (35-59 yrs)	26.12	125	67	58
Total	100	**480**	256	224

Figure 5: Detailed Flowchart depicting implementation of Sampling Technique

4.3 Data Collection Instruments

4.3.1 Primary Data Tools

The tools used for the purpose of primary data collection would be questionnaires, personal interviews and focused group discussion (both structured and unstructured).

- Questionnaires will be used for the survey of consumers
- Structured Personal Interview will be conducted for marketers/managers to understand consumers' response to product harm crisis from their perspective.
- Open-ended Group Discussion will be used for eliciting responses from small children to gain insights into their response to product harm crisis.

4.3.2 Secondary Data

Data will be collected through various magazines, journals, publication of marketing research agencies, newspapers, firms‟ annual financial reports.

4.4 Statistical Techniques for Data Analysis

Relevant analytical tools like descriptive statistics, z-test, ANOVA and Regression would be used.

Section 5: CHAPTERIZATION

The proposed study will contain the following chapters:

- Chapter 1: Introduction
- Chapter 2 – Review of Literature and Case Studies
- Chapter 3- Conceptual Framework
- Chapter 4 – Research Design and Methodology
- Chapter 5– Data Collection and Analysis
- Chapter 6– Results and Interpretations
- Chapter 7 –Managerial Implications, Conclusion and Direction for Future Research
- Bibliography and References
- Appendix

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APPENDIX 1

List of Approved Colonies of Agra City *(A Snapshot)*

Zone wise List of Colonies of Agra City

SNo.	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5	Zone 6	Zone 7
	Adarsh	Adan bagh		Aditya Bihar	Mohanpura		Shri
1	Nagar	Extension	Dayal Nagar	Colony	Colony	Daya Nagar	Nagar
	Dhakre		MadhavKunj	Saket	Rajdeep	Shri Kripa	Gulab
2	Enclave	AnamikaVihar	Colony	Colony	Colony	Kunj	Nagar
	PAC					Vibhav	
	Residential			Vihsnu		Nagar Sector	Chandra
3	Colony	Dev Nagar	Shanker Colony	Colony	Heera Nagar	3	Nagar
						Vibhav	
			South North	MurliVihar	Defence Estate	Nagar Sector	Shivpriya
4		KabirKunj	Arjun Nagar	Colony	1	1 & 2	Complex
						Vibhav	
			West Arjun	Pandav		Nagar Sector	Hardik
5		K.K. Nagar	Nagar	Nagar	ShantaKunj	4	Enclave
				Janakpuri			Krishna
6		Lawyer's Colony	Vishnu Colony	Colony	Defence Estate	Bansal Nagar	Enclave
				Pushpanajli		Shivraj Nagar	
				Dham		P.N.B.	Vijay
7		Tagore Nagar 1	Alok Nagar	Colony	Ganga Enclave	Colony	Kunj
							Bunny
			Teacher's		Mahendra	Handicraft	Singh
8		Tagore Nagar 2	Colony	Janta Colony	Enclave I	Colony	Colony
							Radha
9		Tulsi Enclave	Laxman Nagar		Brij Enclave	SulabhVihar	Puram
					Pushpanjali	Rajeev Rahul	
10		Uma Vihar	Pandav Nagar		Green	Nagar	
					Meenakshi	Gulmohar	
11		SurajVihar	Parshuram Nagar		Puram I	Enclave	
		ViashnoDham				Narotam	
12		Garden	AyodhyaKunj		ShivaniVihar	Kunj	
		HeeraBagh					
13		Colony	AlkaPuri		Raja Enclave	KaveriVihar	
			State Bank			Rohit	
14		Indrapuri Colony	Colony		VinayakVihar	Enclave	
						Rahul Vihar	
15		AnupamBagh	KeshavKunj I		RadhikaVihar	A	
16		Jawaher Colony	Saraswati Nagar		Vibhav Nagar	Rani Bagh	
			Ajeei Nagar			Amarlok	
17		Adan bagh	Gate Colony		Raman Kunj	Colony	
18		Officer's Colony	Janta Colony		MadhavVihar	NitiBagh	
					Shri Shyam	Rahul Vihar	
19		LataKunj	LaxmiKunj		Dham 1	2	